

Victoria University of Bangladesh
Department of Computer Science & Engineering

Name: Ashit Kumar (Akin)

Student ID: 2221220011

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Course Title: Software Engineering

(1)

Answer to the question no: 1(a)

1. (a) Ans: Software Engineering: Software engineering is the branch of computer science that deals with the design, development, testing and maintenance of software applications. Software engineers apply engineering principles and knowledge of programming languages to build software solutions for end users.

Answer to the question no: 1(b)

1. (b) Ans: Waterfall model: The waterfall methodology - also known as the waterfall model - is a sequential development process that flows like a waterfall through all phases of a project (analysis, design, development and testing for example), with each phase completely wrapping up before the next phase begins.

(P.F.O.)

(2)

Validation model: Validation model refers to the process of confirming that the model actually achieves its intended purpose. In most situations, this will involve confirmation that the model is predictive under the conditions of its intended use. process validation is the analysis of data gathered throughout the design and manufacturing of a product in order to confirm that process can reliably output products of a determined standard.

Answer to the question no 12c)

1. (c) Ans: characteristics of SRS: Features of an SRS: An SRS should have following characteristics:
correct, should accurately reflect product functionality and specification at any point of time
Unambiguous should not be any confusion regarding interpretation of the requirements
complete should contain all the features requested by a client.

Answer to the question no: 2 (a)

2. (a) Ansr: Categories of Software Maintenance:

1. Corrective Software Maintenance: Corrective software maintenance is the typical classic form of maintenance (for software and anything else for that matter).
2. Preventative Software Maintenance.
3. Perfective Software Maintenance.
4. Adaptive Software Maintenance.

Answer to the question no: 2 (b)

2. (b) Ansr: Difference between Black & White box testing:

Black Box Testing	White Box Testing
It is a software testing technique that examines the functionality of software without knowing its internal structure or coding.	In white box testing, the internal structure of the software is known to the tester.

④

Black Box Testing	White Box Testing
Black Box Testing is also known as functional testing, data-driven testing, and closed-box testing.	It is also known as structural testing, clear box testing, code-based testing, and transparent testing.
In Black box testing there is less programming knowledge is required.	In white-box testing, there is a requirement of programming knowledge.
It is not well suitable for algorithm testing.	It is well suitable and recommended for algorithm testing.
It is done at higher levels of testing that are system testing and acceptance testing.	It is done at lower levels of testing that are unit testing and integration testing.
It is mainly performed by the software testers.	It is mainly performed by developers.

P.T.O

Answer to the question no: 2 (c)

2. (c) Ans: Types of documentations in SQA:

1. Requirement Document.
2. Test Matrics.
3. Test Cases and test plan.
4. Task Distribution flow chart.
5. Transaction Mix.
6. User Profiles.
7. Test log.
8. Test incident report.

(6)

Answer to the question no: 3(a)

3. (a) Ans: Project Manager: A project manager is a professional who organizes, plans, and executes projects while working within restraints like budgets and schedules. Project managers lead entire teams, define projects goals, communicate with stakeholders, and see a project through to its closure. Whether running a marketing campaign, constructing a building, developing a computer system, or launching a new product, the project manager is responsible for the success or failure of the project.

Answer to the question no: 3(b)

3. (b) Ans: Define Project Manager: A project manager is a professional who organizes, plans and executes projects while working within restraints like budgets, and schedules. Project managers lead entire teams, define projects goals, communicate with stakeholders and see a project through to its closure. Whether running a marketing campaign, constructing a building, developing a computer.

(7)

Project manager role and responsibilities:

A project manager is a professional in charge of ensuring their teams complete all projects on time and within budget. They prevent scope creep while also managing individual tasks for their respective teams with keen attention to detail to avoid any unpleasant surprises.

plan and develop the project idea. Every project starts as an idea.

Create and lead your dream team.

Monitor project progress and set deadlines

Solve Issues that arises.

Manage the money.

Ensure stakeholder satisfaction.

Evaluate project Performance.

P.T.O.

Answer to the question no: 3(c)

3. (c) Ans: Define Iterative model advantage:

More flexible - less costly to change scope and requirements. Easier to test and debug during a smaller iteration. Easier to manage risk because risk pieces are identified and handled during its iterations. Each iteration is an easily managed milestone.

Disadvantages of Iterative model: More resources may be required. Although cost of change is lesser, but it is not very suitable for changing requirements. More management attention is required. It is not suitable for smaller projects. Highly skilled resources are required for skill analysis.

(9)

Answer to the question no: 4(a)

4. (a) Ans: Quality: Quality refers to a set of characteristics expected from products or services. It is a combination of various factors such as design, performance, reliability, safety, efficiency, effectiveness, economy and timeliness. In other words, quality means conformance with specific standards.

Importance of Quality:

Quality establishes that higher revenues and productivity is achieved for the organisation. Quality assists an organisation to diminish waste, costs and risks. Quality helps to boost reputation, brand value and meet the industry standards.

P.T.O.

Answer to the question no: 4 (b)

1. (b) Ans: SQA Activities: SQA is a set of activities that verifies that everyone involved with the project has correctly implemented all procedures and processes. SQA works parallel to software development, an ongoing activity applied throughout the software development life cycle.